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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,276	07/08/2003	Frank Olschewski	21295-61	1275
29127	7590	05/07/2009		
HOUSTON ELISEEVA 4 MILITIA DRIVE, SUITE 4 LEXINGTON, MA 02421			EXAMINER KIM, CHONG R	
			ART UNIT	PAPER NUMBER
			2624	
			MAIL DATE	DELIVERY MODE
			05/07/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/604,276	Applicant(s) OLSCHEWSKI, FRANK	
	Examiner CHARLES KIM	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment and Arguments

1. Applicant's amendment filed on March 23, 2009 has been entered and made of record.
2. Applicant's arguments with respect to the rejected claims have been considered but are moot in view of the new ground(s) of rejection, the details of which are provided below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 5, 7, 11, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Torre-Bueno, U.S. Patent Application Publication No. 2005/0282292 ("Torre"), Yamada et al., U.S. Patent Application Publication No. 2003/0132401 ("Yamada"), and Elings et al., U.S. Patent No. 5,077,473 ("Elings").

Referring to claim 1, Torre discloses a method for monitoring and controlling a microscope with a biological specimen, comprising the following steps:

ascertaining the information content of at least one image of the biological (tissue) specimen [pars. 41 and 43 Note that an image of a tissue sample is captured and analyzed.];

analyzing the information content using a specified target information content [par. 101.

Note that the output from the camera is sampled to determine an adjustment in the light level that

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produces desired levels. This adjustment also compensates for variations in the light levels of the captured images. Accordingly, the lighting levels would be modified to compensate for changes in the biological specimen due to phenomena such as the bleaching effect.];

determining a control variable from the analysis of the information content, using a predetermined target value for influencing the information content [par. 101. As noted above, the light levels are adjusted to maintain desired levels and compensate for variations in the captured images.]; and

transferring the control variable to at least one non-scanning actuator of the microscope [par. 101. The light levels are adjusted by the light illumination controller 106, which is a non-scanning actuator.];

wherein the specified target information content corresponds to information content of the biological specimen at a point in time before the at least one image of the biological specimen is taken [par. 101. Note that in order to compensate for variations in the light levels, the light levels from a currently captured image are compared to the light levels of a previously captured image. Thus, the specified target information content corresponds to information content obtained prior to the captured image.].

The Examiner notes that it is highly likely that Torre's step of compensating for variations in the light levels includes a tolerance dimension representing a specified variation of the information content. Unfortunately, Torre does not explicitly disclose this feature. Nonetheless, this feature was exceedingly well known in the art, as evidenced by Yamada's teaching in paragraph 77.

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Torre and Yamada are combinable because they are both concerned with adjusting microscope control parameters. Yamada provides a tolerance dimension that defines a specific amount of variation that would be acceptable in maintaining optimum lighting quality [Yamada, par. 77]. At the time of the invention, it would have been obvious to modify Torre to include a tolerance dimension, as taught by Yamada. The reason for doing so would have been to ensure that the optimum lighting quality is maintained by limiting the acceptable variation of the light levels to a certain degree. Therefore, it would have been obvious to combine Torre and Yamada.

Torre and Yamada do not explicitly disclose the step of outputting a warning signal in the event of variations of the information content beyond the tolerance dimension. However, this feature was exceedingly well known in the art. For example, Elings discloses outputting a warning signal in the event of variations of image information content beyond a tolerance dimension [col. 10, ll. 61-65].

Torre, Yamada and Elings are combinable because they are all concerned with adjusting microscope control parameters. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify Torre and Yamada to include the step of outputting a warning signal in the event variations of the information content go beyond the tolerance dimension, as taught by Elings. Torre is concerned with maintaining desired lighting levels. Yamada provides for adjusting microscope control parameters in order to maintain image content data within a tolerance dimension. Elings provides the added benefit of informing the user by a warning signal when the variations of the image content data go beyond the tolerance dimension. Accordingly, one of ordinary skill could have easily included Elings's warning signal in Yamada's method to produce the predictable result of informing the user in the event the

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variations of the image content data go beyond a tolerance dimension. Therefore, it would have been obvious to combine Torre and Yamada with Elings to obtain the invention as specified in claim 1.

Referring to claim 2, Torre further discloses that depending on the result of the analysis of the information content, several different control variables and non-scanning actuators of the microscope are determined and activated [par 101. Note that the transmitted light controller 106 and the fluorescent excitation illumination controller 102 are activated.].

Referring to claim 5, Torre further discloses that the microscope is embodied as a scanning microscope [par. 44].

Referring to claim 7, see the rejection of at least claim 1 above.

Referring to claim 11, see the rejection of at least claim 5 above.

Referring to claim 12, see the rejection of at least claim 1 above.

4. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Torre, Yamada, Elings, and Tsuneta et al., U.S. Patent No. 6,570,156 (hereinafter Tsuneta).

Referring to claims 3 and 4, see the discussion of claims 9 and 10 below.

5. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Torre and Yamada.

Referring to claim 6, Torre discloses an arrangement for monitoring and controlling a microscope with a biological specimen, comprising:

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a detector unit (CCD) for acquiring at least one image [par. 71];

at least one input port for a control variable [fig. 5];

a computer system associated with the microscope, wherein the information content of the at least one image can be ascertained using the detector unit and the computer system; the computer system analyzes the information content using a specified target information content, and determines a control variable therefrom; from the analysis of the information content, using a predetermined target value for influencing the information content [par. 101. Note that the output from the camera is sampled by a computer to determine an adjustment in the light level that produces desired levels. This adjustment also compensates for variations in the light levels of the captured images. Accordingly, the lighting levels would be modified to compensate for changes in the biological specimen due to phenomena such as the bleaching effect.]

at least one non-scanning actuator associated with the microscope, wherein the actuator converts the control variable allocated to the actuator into a change in the information content of the image [par. 101. The light levels are adjusted by the light illumination controller 106, which is a non-scanning actuator. Consequently, the light adjustment would change the information content of the image.];

wherein the specified target information content corresponds to information content of the biological specimen at a point in time before the at least one image of the biological specimen is taken [par. 101. Note that in order to compensate for variations in the light levels, the light levels from a currently captured image are compared to the light levels of a previously captured image. Thus, the specified target information content corresponds to information content obtained prior to the captured image.].

The Examiner notes that it is highly likely that Torre's step of compensating for variations in the light levels includes a tolerance dimension representing a specified variation of the information content. Unfortunately, Torre does not explicitly disclose this feature. Nonetheless, this feature was exceedingly well known in the art, as evidenced by Yamada's teaching in paragraph 77.

Torre and Yamada are combinable because they are both concerned with adjusting microscope control parameters. Yamada provides a tolerance dimension that defines a specific amount of variation that would be acceptable in maintaining optimum lighting quality [Yamada, par. 77]. At the time of the invention, it would have been obvious to modify Torre to include a tolerance dimension, as taught by Yamada. The reason for doing so would have been to ensure that the optimum lighting quality is maintained by limiting the acceptable variation of the light levels to a certain degree. Therefore, it would have been obvious to combine Torre and Yamada to obtain the invention specified in claim 6.

Referring to claim 8, Torre further discloses that several non-scanning actuators are associated with the microscope, each of which receives a different control variable [par 101. Note that the transmitted light controller 106 and the fluorescent excitation illumination controller 102 are activated and each receives a different control variable.].

6. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Torre, Yamada and Tsuneta.

Referring to claims 9 and 10, Torre and Yamada do not explicitly disclose that the automatic monitoring of the microscope is initiated by a user by means of a switch that is

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embodied as a click button on a display associated with the computer system. However, this feature was exceedingly well known in the art. For example, Tsuneta discloses initiating the monitoring of a microscope by a switch embodied as a click button on a display associated with a computer system [fig. 2. Note that the GUI allows a user to control and monitor a microscope.].

Torre, Yamada and Tsuneta are combinable because they are all concerned with microscope control systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify Torre and Yamada to include the user initiated switch of Tsuneta. Tsuneta's switch would have provided the added benefit of allowing the user to control and monitor the microscope using an easy to use interface. Therefore, it would have been obvious to combine Torre and Yamada with Tsuneta to obtain the invention as specified in claims 9 and 10.

Possible Allowable Subject Matter

7. The Examiner would like to point out the possibility of allowable subject matter in paragraph 28 of the Applicant's specification that describes an "equilibrium between increasing the light intensity and the gain." This feature does not appear to be taught by either Torre or Yamada.

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Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Kim whose telephone number is 571-272-7421. The examiner can normally be reached on Mon thru Thurs 8:30am to 6pm and alternating Fri 9:30am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on 571-272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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May 5, 2009